

In re Patent Application of:
HARLEY R. MYLER, et al
Serial No. 09/911,575
Filing Date: 7/25/2001

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Remarks

Applicants and the undersigned would like to thank the Examiner for her efforts in the examination of this application. Claims 1-29 remain in the case. The Examiner presents new grounds for rejection in view of Applicants response to the Office Action of September 25, 2003 (Paper No. 3) and rejects claims 1-10 and 15-29 under 35 USC §103(a) as being unpatentable over US Patent No. 5,767,922 to Zabih et al. (Zabih '922) in view of Applicants' admitted prior art (AAPA). Claims 11-14 were rejected under 35 USC §103(a) as being unpatentable over Zabih '922 in view of AAPA, and further in view of US Patent No. 5,745,169 to Murphy et al. (Murphy '169). Respectfully, the examiner is now asked to reconsider these rejections based on the previously submitted Declaration of Michele Van Dyke-Lewis and the Declaration of Harley R. Myler, hereto attached.

As presented in the Declaration of Harley R. Myler, while the cited references appear to offer various elements of RFP, there is no motivation to combine the elements of independent claims 1, 26, and 29 as suggested by the Examiner. It is only through the teachings of the Applicants and as guided by the construction of the claimed invention that those of ordinary skill in the art would know to combine the teachings in the prior art, as suggested by the Examiner. In other word, it is only appropriate to ask whether the claimed invention would have been obvious, not whether it is now obvious given the knowledge of the prior art and the teaching of the Applicants. To draw on hindsight knowledge, when the prior art does not contain nor suggest that knowledge, is to use the claimed invention as a template for its own construction. Such can not be the intent for determining patentability.

By way of supporting example, consider the teachings of Murphy '169 and Zabih '922. Murphy '169 is directed to an approach to error detection that is fundamentally

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different from quality analysis. This patent disclosure teaches the use of "blocks of frequency related coefficients representing respective blocks of the image" and the analysis of "the statistical distribution of said coefficients within a block to detect the presence of corrupted data." Features in Murphy '169 lie with the intent to detect data corruption as a result of errors in coded coefficients. As presented in the Myler Declaration, these coefficients represent a video frame reduced to coded blocks, not the entire video frame being processed for VQ degradation as presented by the teachings of the present invention. Although Murphy '169 analyzes block difference statistics, one of skill in the art would not look to Murphy '169, nor would it be obvious to one of skill in the art, to extend this to frame-to-frame comparisons.

By way of further example, consider the language of claim 1 in the present application. Such language does not induce the granularity of a blockwise analysis of the suspect frame. In particular, the use of the *at least one intercut sequence* insures that the collective statistic is based on a frame-wise analysis and not blocks. While calling for an intercut sequence may appear to evoke the teachings of Zabih '922, which specifies "A process for detecting scene breaks in a sequence of images" by "detecting the location of intensity edges in every image and storing the information about the location of the intensity edges in a plurality of successive binary images," there is a clear distinction. In this case, the teachings of Zabih '922 include the detection of scene breaks and the methodology includes the use of intensity images.

As illustrated with reference to Claim 8, the present invention calls for scene breaks, determined from *interframe correlation* and not edge detection, to establish a set of frames for analysis. As supported by the Myler Declaration, this again is not an obvious construction and there is no motivation for the combination of the Murphy '169 approach to error detection with the Zabih '922 scene break method to produce RFP. Further, there is no motivation to combine this with Murphy '169 and Zabih '922 in order to produce the VQ analysis taught by our *Reverse Frame Prediction* technique.

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The Examiner is further asked to consider the objective evidence of non-obviousness, such as "long felt need" and "failure of others" presented in the Myler Declaration. As presented in Paragraph 5, a review of the claimed invention presented to experts at an IEEE Transactions presentation entitled "Gabor Difference Analysis of Digital Video Quality." presented an analysis of the Gabor difference technique for measuring video quality that is described in U.S. Patent No. 6,577,764 to Myler and Van Dyke-Lewis for a "Method for Measuring and Analyzing Digital Video Quality," a copy is hereto attached as Exhibit A for the convenience of the Examiner. The following comments by one skilled in the art included:

Quality: The paper addresses an issue of fundamental importance to the broadcasting industry. The overall quality of the paper is fair, its stronger points being relevance and originality and its weaker points being coherence, presentation and understandability.

Originality: The paper is fairly original in the sense that there are no other methods of video quality assessment known to me that use the methodology advocated by the authors.

Analysis: The paper doesn't appear to offer any concrete analysis in relation to the proposed methodology. Nevertheless this is not uncommon in papers dealing with this topic.

Such a review clearly supports objective evidence of non-obviousness with regard to the RFP methods, as claimed, under any circumstance, even for those substantially skilled in the art.

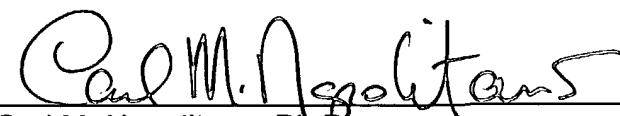
With continued reference to the Myler declaration, further objective evidence is found in the correspondence of Stephen Wolf, Project Leader of the Video Quality Research Program at the Institute for Telecommunication Sciences (ITS), an office of the National Telecommunications and Information Administration (NTIA) in Boulder, Colorado, when with regard to "zero reference" methods, he states: "I wish I could tell you that we have solved this problem, but we have not even tried to solve the zero reference problem."

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While a collection of known prior art including Murphy '169 and Zabih '922 may teach, in various ways, elements of RFP, there is no clear objective evidence of any motivation to combine these or other references as suggested by the Examiner, given the evidence presented in the Myler and Lewis Declarations. Independent claims 1, 26, and 29 clearly distinguish over the prior art, as do dependent claims 2-25, and 27-28 adding yet additional features. Therefore, Applicants respectfully submits that the above arguments as supported by the Declaration of Harley R. Myler place this application in a condition for allowance, and passage to issue is respectfully solicited.

The Applicants and the undersigned would like to again thank the Examiner for her efforts in the examination of this application and for reconsideration of the claims as amended in light of the arguments presented. If the further prosecution of the application can be facilitated through telephone interview between the Examiner and the undersigned, the Examiner is requested to telephone the undersigned at the Examiner's convenience.

Respectfully submitted,



Carl M. Napolitano, Ph.D.
Reg. No. 37,405
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST, P.A.
255 South Orange Avenue, Suite 1401
P.O. Box 3791
Orlando, Florida 32802
(407) 841-2330
Agent for Applicant

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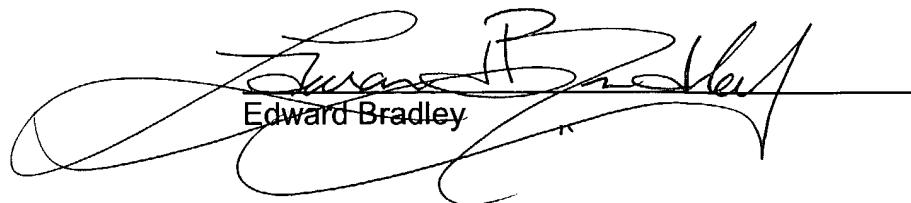
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CERTIFICATE OF MAILING

I hereby certify that the foregoing is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, this 18th day of November, 2004.



Edward Bradley